In the Claims

1. (Original) A replacement electronic module for use in a printer consumable unit comprising:

a first input and output (I/O) port connected to an external contact;

a second I/O port connected to the external contact;

circuitry for controlling the electronic module and responding to read memory commands and write memory commands received from a printer through the external contact on the I/O ports;

a memory for storing data; and

a third port connected to the external contact and adapted to source current;

wherein the circuitry is initially configured to send and receive data from the printer through the first I/O port,

wherein said circuitry tests the functionality of the first I/O port by directing the third port to source current and drive the external contact to a predetermined voltage, and read a voltage received by the first I/O port in response to sourced current,

wherein if the circuitry determines the first I/O port is not functioning correctly based on the read voltage, the circuitry will send data to and receive data from the printer through the second I/O port.

2. (Original) The electronic module of claim 1 wherein if the circuitry determines the first I/O port is not functioning correctly, the circuitry will write a value to the memory indicating the first I/O port is not functioning correctly.

3. (Original) The electronic module of claim 2 wherein the third port is connected to the external contact through a resistor.

4. (Original) The electronic module of claim 1 further comprising:

an additional plurality of I/O ports,

wherein the circuitry is adapted to test the functionality of all of the I/O ports and select a functioning I/O port to send and receive data.

5. (Original) The electronic module of claim 1 wherein the circuitry comprises a microprocessor.

6. (Original) The electronic module of claim 1 wherein the memory stores a value indicating an amount of consumable matter remaining in the printer consumable unit.

7. (Original) The electronic module of claim 6 wherein the consumable matter is laser toner or ink.

8. (Original) A method of verifying the functionality of a replacement electronic component attached to a printer consumable unit, the electronic component comprising first and second input and output (I/O) ports connected to an external contact, circuitry for controlling the electronic module and responding to commands received through the external contact on the I/O ports, a memory for storing data, and a third port connected to the external contact and adapted to source current, the method comprising:

configuring the circuitry to send and receive data through the first I/O port,

testing the functionality of the first I/O port;

if the circuitry determines the first I/O port is not functioning correctly, configuring the circuitry to send and receive data through the second I/O port; and

storing an indication of the non-functionality of the first I/O port in the memory.

9. (Original) The method of claim 8 wherein testing the functionality of the first I/O port further comprises:

directing the third port to source current and drive the external contact to a predetermined voltage; and

reading a signal received by the first I/O port in response to sourced current.

10. (Currently amended) The method of claim 9 further comprising:

reading the indication of non-functionality of the first ~~second~~ I/O port from memory, by the printer.

11. (Original) The method of claim 10 further comprising:

communicating the indication to a user.

12. (Original) The method of claim 11 wherein communicating the indication to the user comprises:

printing a page including an error code.

13. (Original) The method of claim 8 further comprising, before configuring,

removing an existing electronic component from the printer consumable unit; and

attaching the replacement electronic component to the printer consumable unit.

14. (Original) An image forming apparatus comprising:

a printer consumable unit storing consumable imaging material, said unit including an electronic device comprising a first input and output (I/O) port connected to an external contact, a second I/O port connected to the external contact, circuitry for controlling the electronic module and responding to commands received from the image forming apparatus through the external contact on the I/O ports; a memory for storing data; and a third port connected to the external contact and adapted to source current;

wherein the circuitry is initially configured to send and receive data through the first I/O port,

wherein said circuitry tests the functionality of the first I/O port by directing the third port to source current and drive the external contact to a predetermined voltage, and read a signal received by the first I/O port in response to sourced current,

wherein if the circuitry determines the first I/O port is not functioning correctly, the circuitry will send and receive data through the second I/O port.

15. (Currently amended) An electronic module for use in a printer consumable unit comprising:

a first and second ports connected to an external contact;

circuitry for controlling the electronic module and responding to read memory commands and write memory commands received through the external contact on the ports;

a memory for storing data; and

a third port connected to the external contact and adapted to source current;

wherein the circuitry is initially configured to receive data through the first port,

wherein said circuitry tests the functionality of the first port by directing the third port to source current and drive the external contact to a predetermined voltage, and read a voltage received by the first port in response to sourced current,

wherein if the circuitry determines the first port is not functioning correctly based on the read voltage, the circuitry will receive data through the second ~~I/O~~ port.